

SEQUENCE LISTING



<110> Japan Science and Technology Agency
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<120> GENETIC MARKERS LINKED TO GENE LOCUS INVOLVED IN BARLEY RESISTANCE
TO YELLOW MOSAIC DISEASE AND USE THEREOF

<130> 1035-664 / A181-10PCT

<140> US 10/594,250

<141> 2008-06-24

<150> JP 2004-090644

<151> 2004-03-25

<150> JP 2004-342737

<151> 2004-11-26

<160> 62

<170> PatentIn Ver. 2.1

<210> 1

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 1

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20

<210> 2

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 2

gaccgtgtca ggaaagcaat

20

<210> 3

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 3

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<210> 5	
<211> 20	
<212> DNA	
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ctgtttggat gactgcgaga	20
<210> 6	
<211> 20	
<212> DNA	
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<220>	
<223> Description of Artificial Sequence: primer	
<400> 6	
attacgcaac ctgatggagc	20
<210> 7	
<211> 20	
<212> DNA	
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<220>	
<223> Description of Artificial Sequence: primer	
<400> 7	
accccggaag ctaagatgat	20
<210> 8	
<211> 20	
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<223> Description of Artificial Sequence: primer

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<210> 9
<211> 21
<212> DNA
<213> Hordeum vulgare

<400> 9
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<210> 10
<211> 21
<212> DNA
<213> Hordeum vulgare

<400> 10
atcttctgca agcacttgtc g 21

<210> 11
<211> 21
<212> DNA
<213> Hordeum vulgare

<400> 11
tgccgtggcc gtgcacgatg a 21

<210> 12
<211> 21
<212> DNA
<213> Hordeum vulgare

<400> 12
tgccgtggcc atgcacgatg a 21

<210> 13
<211> 21
<212> DNA
<213> Hordeum vulgare

<400> 13
attactcagc tacacaccta t 21

<210> 14
<211> 21
<212> DNA
<213> Hordeum vulgare

<400> 14

attactcagc cacacaccta t

21

<210> 15

<211> 688

<212> DNA

<213> Hordeum vulgare

<400> 15

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gggtgggggtg gtataagtag atatacagaa cggaggaccg tctcctggtc ctcagctttg 120
ggctcttctct accttggcct tgatcttctg ctcgaggacc gccttctccg tgtcgagggtt 180
gaacatcctg ttgagggcgt gcatgttgct gagcgtctcg tccaggggtgc ggctgtcgct 240
gccatcgcat ctcagggtgct gcaacgggcc gtggaggagc ttgttacta tgcccgtgct 300
cagctcttcg atagaccttc tcgtcttctt gttgagggtt tcttccccga tcttctgcag 360
gcacttgctg agctcggatg ccttgatcct gtcggcatac gacctcagct ttttgatggt 420
cgggaccgtc tccagcgagt cctccacgc ctcgaaccgc ttcagttctt gggatgatgat 480
tgcttgggcc tccattgctt tctgacacg gtcttccttg ttggcttcca ccacctctt 540
caagtcgtca acattgtata cccgtgcgtg ctccacttga gataggcagg caccgacgtt 600
ccttgggacg gatatgtcga cgaaaagccg aacaccaccc atggcaagag agataggagg 660
aagcgccctc gcatgcccct tggatgaat 688
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<210> 16

<211> 645

<212> DNA

<213> Hordeum vulgare

<400> 16

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atactatcca gtatctacac atgaatattt ccagagattt tgctattatg atactgcat 120
caagaactgt ctgcaaaatc aagaaacact attttgatta cgtccctatg atatactgct 180
agttcctata tatctttcct gggttggtga acttgagctt ctgactgact gcttggtagg 240
ttcatctccg tgttctctg gacttgaagg tgtgaggaag ggcagcctc cagagaagaa 300
aagcgtggtt tgtgcctacc aaacttgctt cgttgacagc ccaagggcag gtccccacgt 360
gtcgtcgctt tattttcctt cttttcataa acaccttcaa acttttttca accacgcgt 420
gcaactggaa gtaatgattg tacaggctct tctttaattc aaatcacacg caacgtcaca 480
aatactaacc ttgacatgcc tggaaactggc agtgtggcta ccatccacct tcgcctagtt 540
gccatgtata aagatacggg ggagcttggt ggcatgacc gcataaggaa cgaactcaaa 600
agctgcttaa tgaggacaag acatctaatt aagaacaatt gaaga 645
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<210> 17

<211> 696

<212> DNA

<213> Hordeum vulgare

<220>

<221> UNSURE

<222> (10), (24), (30)

<223> n is a or g or t or c

<400> 17

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cataactcca atgtgatttt agtagtcacg tacaacatga tctaattatt attatggcgc 120
catccaattc ttagcgaccg acgagatgtt ttcacgttg tttgtagtaa cacaaaacag 180
agtagactgt ttggatgact gcgagaagta agccaatagc agctgccatg agcccaacgg 240
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caagccatgg	gttcctcaag	tacctctgcc	ttagccaggc	agtccacctc	cggggggttgc	300
tctggaaccg	cttctccagc	ttcttgcattg	tctcccgtag	gtagttgcag	ccgggggtcat	360
caggggtcaaa	cataatcccc	ttgcaaagggt	cgacgaagca	tttggccacc	tcttcgttgt	420
tgccgtggcc	gtgcacgatg	acgcctctcc	tcaccaagag	ctccacgtcc	ttcgtggtgc	480
aggccatctg	ggacatgaac	acgcagtatg	ccgtgacatg	gctccccacc	gtctcccgggt	540
tctctctgctc	cagctccatc	aggttgcgta	atagccgcca	cgtctcggcg	tcgatgtcca	600
ggacggggat	ctccagcgta	ccgccaccgc	cgtccagctt	cacgtcgagg	atgcagcgga	660
tgacaccctt	ctcgtctcatg	gccccgggcg	ttgaac			696

<210> 18
 <211> 738
 <212> DNA
 <213> Hordeum vulgare

<400> 18						
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cacaggataa	cttccgatac	ctccaagcag	ttgcaactca	taagatgaaa	ttattttacaa	120
agagtggcca	tgactaccta	ccctacctgc	tatctacagt	tttttttggg	tatactattc	180
acagttggtg	tcgaagagac	gtaaccaatc	taggaacata	catgggcaag	gaatgacccc	240
ggaagctaag	atgatgaatt	ggaagaggag	tcatgtacac	aacctactta	tagactatat	300
ataatttttag	ggccatttct	caaccaacac	ctattttgaca	agggcaagaa	ttttacttcg	360
tattgatgaa	acagatatca	caattcacca	ttacggcatt	acttacctag	ttgatgccaa	420
agaaacttaa	taatatctaa	gaaactatcc	acctaaggaa	tgaccagaga	agctgagatg	480
atgaattgga	aggagtcaaa	tacagaaccc	atttttagat	tatatgtaca	aaatttttagg	540
gtcattactc	agccacacac	ctattttgaaa	acaacaggaa	gaattttact	tagtcatgat	600
gaaacagatt	tcttttaaca	aataagaatt	cgactactcc	ttagatatct	aaagatggat	660
gacgtagcca	gataccatgt	agaacactga	aaaggcgtgt	accgcatggt	ccgactgaag	720
actatcaatc	atggtaag					738

<210> 19
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: primer

<400> 19		
acgatcgatc	aaaaggacca	20

<210> 20
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: primer

<400> 20		
aatccgacga	aatcaacgag	20

<210> 21
 <211> 20

<212> DNA
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 <223> Description of Artificial Sequence: primer

 <400> 21
 ctcgatcatc agcgacttca 20

 <210> 22
 <211> 20
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 <220>
 <223> Description of Artificial Sequence: primer

 <400> 22
 gaagaggcac cttctgcaac 20

 <210> 23
 <211> 20
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: primer

 <400> 23
 aatgtgcaca ccaaggttga 20

 <210> 24
 <211> 20
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: primer

 <400> 24
 agacaacaac cgcctgtacc 20

 <210> 25
 <211> 19
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: primer

 <400> 25
 gatgagtcct gagtaaacc 19

<210> 26
 <211> 19
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: primer

 <400> 26
 gactgcgtac caattcacg 19

 <210> 27
 <211> 20
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: primer

 <400> 27
 tccagccgaa caatttcttg 20

 <210> 28
 <211> 20
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: primer

 <400> 28
 agtactccga caccacgtcc 20

 <210> 29
 <211> 19
 <212> DNA
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 <220>
 <223> Description of Artificial Sequence: primer

 <400> 29
 gatgagtcct gagtaaatt 19

 <210> 30
 <211> 19
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: primer

<400> 30
gactgcgtac caattcacg 19

<210> 31
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 31
gatgagtcct gagtaaata 19

<210> 32
<211> 19
<212> DNA
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<220>
<223> Description of Artificial Sequence: primer

<400> 32
gactgcgtac caattcgga 19

<210> 33
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 33
atggacccaa caagtggaag 20

<210> 34
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 34
aggaagactt tggaggccat 20

<210> 35
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: primer

 <400> 35
 gatgagtcct gagtaatgg 19

 <210> 36
 <211> 19
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: primer

 <400> 36
 gactgcgtac caattcgga 19

 <210> 37
 <211> 19
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: primer

 <400> 37
 gatgagtcct gagtaacaa 19

 <210> 38
 <211> 19
 <212> DNA
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 <220>
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 <400> 38
 gactgcgtac caattcggg 19

 <210> 39
 <211> 19
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: primer

 <400> 39
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 <210> 40
 <211> 19

<212> DNA
 <213> Artificial Sequence

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 <223> Description of Artificial Sequence: primer

 <400> 40
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 <210> 41
 <211> 19
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: primer

 <400> 41
 gatgagtcct gagtaaattg 19

 <210> 42
 <211> 19
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: primer

 <400> 42
 gactgcgtac caattcata 19

 <210> 43
 <211> 19
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: primer

 <400> 43
 gatgagtcct gagtaaactg 19

 <210> 44
 <211> 19
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: primer

 <400> 44
 gactgcgtac caattcgat 19

<210> 45
 <211> 19
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: primer

 <400> 45
 gatgagtcct gagtaaacg 19

 <210> 46
 <211> 19
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: primer

 <400> 46
 gactgcgtac caattcgga 19

 <210> 47
 <211> 16
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: primer

 <400> 47
 gacgatgagt cctgag 16

 <210> 48
 <211> 14
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: primer

 <400> 48
 tactcaggac tcat 14

 <210> 49
 <211> 17
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: primer

<400> 49
ctcgtagact gcgtacc 17

<210> 50
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 50
aattggtacg cagtctac 18

<210> 51
<211> 16
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 51
gatgagtcct gagtaa 16

<210> 52
<211> 16
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 52
gactgcgtac caattc 16

<210> 53
<211> 664
<212> DNA
<213> Hordeum vulgare

<220>
<221> UNSURE
<222> (10)
<223> n is a or g or t or c

<400> 53
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ataagcactt ggtattcact aatccatgaa aatagttatt attcaaaaca caggagatc 120
gcaagggagt ctgatctgaa aaggccctag aagccattca gtaaccacga gagtaacaag 180
ttgcagaaag ctagaaacaa ctggaatact taatcccttg acattcaaaa acatgaagaa 240
tgtcaaaatg atgattcata acacgatcga tcaaaaggac cagtcattctg gaagaactct 300
tggtagtcgt tcagtaacgg cgtggaggga accggtccag gagcctccca gatggacact 360

cgtaagccat	gtgaccacga	ccaccacagt	tgttgcagat	catgaaggcg	ccacccatgc	420
agtcacggct	catatggcca	acctgggtgc	aggccccgca	gaccatgtca	ctgtagccac	480
cacggaagag	agcaccgccc	ccaccacgga	agggagcatc	gccaccacgg	aacagagcat	540
cgccgccacg	gaacagagcg	tcaccgccac	ggaacagagc	gtcaccacca	cggaaggagg	600
gaggcccacc	cctctcgttg	atttcgtcgg	atttggggca	ttgacggggc	aaatgccttg	660
caac						664

<210> 54
 <211> 545
 <212> DNA
 <213> Hordeum vulgare

<400> 54						
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gacatcattg	tgataaatca	taaggtaggt	aattttccat	aactcaaaat	tttgatctaa	120
gcttctatct	ttctctctct	ctctctaata	gggtgcctcg	tcatcagcga	cttcaggact	180
tgctcctcgt	aacaaaccag	ctgagtcctg	acgaaacaat	ccagaaagtc	agcagcaagg	240
aagcaagccc	tggggctctc	aaaaggcaat	cgaccaatct	tcttgtgtgg	cctcagtggt	300
gggtctgttct	actccgcctt	cttgggtccg	aagtctcgacc	tcattgacga	aacctttttc	360
ttgcaactgca	ccactgtttt	accagggaca	gcagtagcta	ctcgctccca	tcttttggtt	420
gcaccttgg	gaaatgcctt	caaagcttga	acaagggcca	gcacctgagc	ctctgaccag	480
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ttggc						545

<210> 55
 <211> 21
 <212> DNA
 <213> Hordeum vulgare

<400> 55	
cttatgtgat cataatactg c	21

<210> 56
 <211> 21
 <212> DNA
 <213> Hordeum vulgare

<400> 56	
cttatgtgat aataatactg c	21

<210> 57
 <211> 514
 <212> DNA
 <213> Hordeum vulgare

<400> 57						
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agaatgggtt	ggctttttaca	aagaagaaaa	aaaatgatca	aaaatttgcg	tctccctccg	180
cagtgatcca	agttcccaag	ggcagcttct	taggggagcc	cctagatgca	aatggatccg	240
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catttacttg	gcaattctac	atccgtaaga	actattcatc	tatacagccg	gaatttttag	360
aaggacgagt	gagcagcaat	acagacatac	ggagatggca	accccggcga	tgaaattctg	420

gtacagggcgg ttgttgcttc tactgggaat gaaggctgcc ctcagcacgt ttgtgatctc 480
aaatactcgg tatgacagca aaagatagat tgat 514

<210> 58
<211> 21
<212> DNA
<213> Hordeum vulgare

<400> 58
agccttccac tggatcatt t 21

<210> 59
<211> 21
<212> DNA
<213> Hordeum vulgare

<400> 59
agccttccac cggatcatt t 21

<210> 60
<211> 540
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<213> Hordeum vulgare

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<221> UNSURE
<222> (2)
<223> n is a or g or t or c

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ttgaccgaat ggaccaaca agtggaaggc attctatatg aattacagtt atagctccat 120
gacgttctac agtactatga cattacatcc atgatagcta attgtacaaa agagtgaatg 180
aaatgaacta cgaaaatcca gcatcatagt tctgcagtcg ggcttctcag aagtgagcca 240
agctgtatac tagagtccat gaaagcagga aaaggggtgaa cgaggcaaag agccccctct 300
gaagtagggc ggcattggcct ccaaagtctt cctcatcaat cttcagcaga tgtgcatagt 360
acaaatgaac tattacgggtg gaaatagtaa agaatagggc gatccagaag gcgccgacga 420
gggggacggc gccccagagc aggccgcagg cgagccccac cgcttgcggg atccagtga 480
ccgcgtccag cagctgggtc ttgtccaagg acgcgtcggg gtcgaggtac cgggcgagcc 540

<210> 61
<211> 21
<212> DNA
<213> Hordeum vulgare

<400> 61
tttatgtgcc ttagcggtt g 21

<210> 62
<211> 21
<212> DNA
<213> Hordeum vulgare

<400> 62
tttatgtgcc ggtagcggtt g

21